

Atty Docket No. MEMS-0160-US
Appl. No.: 09/895,152

Amdt. Dated 26 October 2004
Reply to Office Action of 7 July 2004

REMARKS/ARGUMENTS

Favorable reconsideration and allowance of the present patent application are respectfully requested in view of the foregoing amendments and the following remarks. Claims 1-4, 6-25, 27-28 and 36-42 are pending in the application.

35 U.S.C. § 102 & 103 Rejections

Claims 1-4, 6-7, 23-25, and 27-28 were rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Mazed (U.S. Patent No. 6,411,642).

Claims 8-22 and 36-42 were rejected under 35 U.S.C. § 103 (a) as allegedly being unpatentable over Mazed (U.S. Patent No. 6,411,642) in view of Feldman et al. (U.S. Patent No. 6,071,652, "Feldman").

Applicant respectfully traverses each of these rejections for at least the following reasons.

The Examiner relies on Mazed, in the 35 U.S.C. § 102(e) and the 35 U.S.C. § 103(a) rejection, to allegedly show, suggest, or teach "performing multiple passes (at least four passes constitutes four exposed regions such that no two passes write long the same path)" and cites Mazed (col. 2, lines 50-55; col. 7, ll. 37-59, and col. 8, ll. 1-57). Applicant respectfully disagrees with the Examiner's assessment of Mazed.

Mazed states:

In this instance, only a quarter of the wafer would be exposed at a time; in other embodiments, the mask could be large enough to cover the whole wafer. (Mazed, col. 7, ll. 9-11).

The fuel exposure dose can be divided over many passes...(Mazed, col. 8, ll. 12).

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Mazed is completely silent with regard to multiple passes where each pass is offset such that no two passes write along the same path. As stated above, Mazed shows quarter exposure due to the smaller size of the mask and the mask's inability to expose the whole wafer.

Additionally and separately, Mazed suggests that "the fuel exposure dose can be divided over many passes." Applicant is unsure what the word "fuel" means in this context, but assumes for the discussion herein that Mazed intended "fuel" to be "full." Mazed is completely silent to using multiple passes where each pass is offset. The present application clearly states that "One technique for maximizing averaging effect is to purposely shift each pass by some vary small distance (or offset) such that no two passes write along the same path" (Specification, para 51). Clearly Mazed suggests no such "offset."

As stated in MPEP § 2131, "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ...claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The references applied by the Examiner neither expressly nor inherently describes every feature of Applicant's claimed combinations as detailed in the foregoing arguments. Therefore since Mazed fails to show a feature of independent claims 1 and 23, as discussed above, these claims are allowable over the references. Additionally, claims 2-4, 6-7, 24-25, and 27-28, which depend directly or indirectly upon one of the claims 1 and 23, are allowable for the same reasons claims 1 and 23 are allowable.

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Further the Examiner indicates that Feldman allegedly shows a causing a reflow in the photoresist (melting) to eliminate roughness, wherein the reflow (melting of the photoresist) is performed to eliminate obvious discontinuities (Office Action, page 4). However, Feldman in actuality states (emphasis added):

When forming a refractive element using a gray scale mask that does not itself have a continuous profile, such as the gray scale mask formed in accordance with the present invention, it may be desirable to reflow the photoresist before the final step 38 of forming the element. This reflow would involve only heating the photoresist up by a small amount such that any obvious discontinuities arising from the step wise nature of the gray scale mask will be eliminated (Feldman et al., col. 8, ll. 7-14).

As clearly stated in Feldman, the reflow process is used to eliminate "obvious discontinuities arising from the step wise nature" of gray scale mask. Feldman fails to show, suggest, or teach reducing general roughness error. Claim 8 states: "melting at least a portion of the photosensitive material, whereby general roughness error is reduced" and Claim 36 states: "melting a surface layer of a portion of the pattern to reduce general roughness error of the surface layer of the portion of the pattern." As noted in Applicant's specification in paragraph 14, the general roughness error as "caused by the slight variations in the dose of the writing tool, usually an electron beam (e-beam) or laser. In the case of the half tone process, the chosen pixel shape scheme may cause this error. The period of oscillation for the general roughness error is typically on the order of 10 microns."

To establish a *prima facie* case obviousness under 35 U.S.C. § 103, the Examiner has the burden of meeting the following three basic criteria: (1) the prior art must teach or suggest all of the claim limitations; (2) there must be a reasonable expectation of success; and (3) there must be some suggestion or motivation, either in the art or knowledge generally available to one of ordinary skill in the art to modify the

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reference or to combine teachings (M.P.E.P. § 2143)(emphasis added). Thus, Mazed and Feldman, assuming the references are combinable (which Applicants contest), fail to show, suggest, or teach all of the claim features of Claims 8 and 36.

The dependent claims are allowable at least by virtue of their dependency on the above-identified independent claims. See MPEP § 2143.01. Moreover, these claims recite additional subject matter, which is not suggested by the documents taken either alone or in combination. For instance, the Examiner has not alleged or shown that the references teach or suggest the specific heating sources or requirements claimed such as in claims 13-17.

CONCLUSION

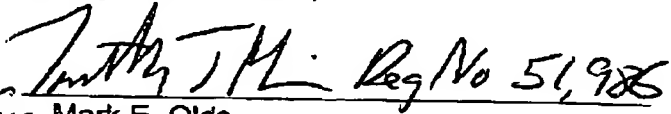
In view of the foregoing amendments and remarks, it is respectfully submitted that the application is in condition for allowance. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney, at the telephone number listed below.

Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 50-3136 and please credit any excess fees to such deposit account.

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Respectfully submitted,
Keady, Olds & Maier, PLLC


for Mark E. Olds
Registration No. 46,507

P.O. Box 220472
Chantilly, VA 20153-0472
(888) 510-0695

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